

WE CLAIM:

1. A method for fail-safe renaming of logical circuit identifiers for rerouted logical circuits in a data network, the method comprising:

providing a network management module for renaming a first logical circuit identifier for a first logical circuit in the data network to a second logical circuit identifier for a second logical circuit utilized for rerouting data from the first logical circuit in the data network; and

renaming a logical circuit label for the first logical circuit in a logical element module in communication with the network management module, wherein the renamed logical circuit label is utilized to indicate that the logical circuit data from the first logical circuit has been rerouted.

2. The method of claim 1, wherein renaming a first logical circuit identifier for a first logical circuit in the data network to a second logical circuit identifier for a second logical circuit utilized for rerouting data from the first logical circuit in the data network, comprises:

accessing a network device provisioned for routing data over the first logical circuit in the data network;

deleting the first logical circuit in the network device upon detecting a failure in the first logical circuit;

provisioning the second logical circuit in the network device for rerouting the data from the first logical circuit, wherein provisioning the second logical circuit includes assigning the second logical circuit identifier to identify the second logical circuit; and

renaming the first logical circuit identifier to the second logical circuit identifier.

3. The method of claim 1, wherein the second logical circuit is a logical failover circuit in the data network.

4. The method of claim 1, wherein the second logical circuit is a currently unused logical circuit in the data network.

5. The method of claim 1, wherein the first logical circuit identifier is a data link connection identifier (DLCI).

6. The method of claim 1, wherein the second logical circuit identifier is a data link connection identifier (DLCI).

7. The method of claim 1, wherein the first logical circuit identifier is a virtual path/virtual circuit identifier (VPI/VCI).

8. The method of claim 1, wherein the second logical circuit identifier is a virtual path/virtual circuit identifier (VPI/VCI).

9. The method of claim 1, wherein the first and second logical circuits are permanent virtual circuits.

10. The method of claim 1, wherein the first and second logical circuits are switched virtual circuits.

11. The method of claim 1, wherein the data network is a frame relay network.

12. The method of claim 1, wherein the data network is an asynchronous transfer mode (ATM) network.

13. A system for fail-safe renaming of logical circuit identifiers for rerouted logical circuits in a data network, the system comprising:

a network device for establishing a communication path for a logical circuit and a logical failover circuit in the data network;

a logical element module in communication with the network device for configuring the logical circuit and the logical failover circuit; and

a network management module, in communication with the logical element module, for:

5 identifying a failure in the logical circuit;
deleting the communication path for the failed logical circuit in the network device;

establishing the communication path for the logical failover circuit to reroute the data from the failed logical circuit;

10 assigning a logical failover circuit identifier to identify the logical failover circuit;

renaming a logical circuit identifier for the failed logical circuit to the logical failover circuit identifier in the network database; and

15 renaming a logical circuit label for the failed logical circuit in the logical element module, wherein the renamed logical circuit label is utilized to indicate that the logical circuit data from the failed logical circuit has been rerouted.

14. The system of claim 13, wherein the logical circuit identifier is a data link connection identifier (DLCI).

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15. The system of claim 13, wherein the logical failover circuit identifier is a data link connection identifier (DLCI).

16. The system of claim 13, wherein the logical circuit identifier is a virtual path/virtual circuit identifier (VPI/VCI).

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17. The system of claim 13, wherein the logical failover circuit identifier is a virtual path/virtual circuit identifier (VPI/VCI).

18. The system of claim 13, wherein the logical circuit and the logical failover circuit are permanent virtual circuits.

19. The system of claim 13, wherein the logical circuit and the logical failover
5 circuit are switched virtual circuits.

20. The system of claim 13, wherein the data network is a frame relay network.

10 21. The system of claim 13, wherein the data network is an asynchronous transfer mode (ATM) network.

22. A method for fail-safe renaming of logical circuit identifiers for rerouted logical circuits in a data network, the method comprising:

providing a network management module for:

15 accessing a network device provisioned for routing data over a first logical circuit in the data network;

deleting the first logical circuit in the network device upon detecting a failure in the first logical circuit;

20 provisioning a second logical circuit in the network device for rerouting the data from the first logical circuit, wherein provisioning the second logical circuit includes assigning a second logical circuit identifier to identify the second logical circuit; and

renaming a first logical circuit identifier to the second logical circuit identifier; and

25 renaming a logical circuit label for the first logical circuit in a logical element module in communication with the network management module, wherein the renamed logical circuit label is utilized to indicate that the logical circuit data from the first logical circuit has been rerouted.